SEQUENCE LISTING

<110> Polyak, Kornelia
Porter, Dale
Sgroi, Dennis
Krop, Ian

<120> HIN-1, A TUMOR SUPPRESSOR GENE

<130> 00530-094001

<140> US 10/081,817
<141> 2002-02-22

<150> US 60/270,973
<151> 2001-02-23

<150> US 60/351,908
<151> 2002-01-25

<160> 32

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 104
<212> PRT
<213> Homo sapiens

<400> 1
Met Lys Leu Ala Ala Leu Leu Gly Leu Cys Val Ala Leu Ser Cys Ser
1 5 10 15
Ser Ala Arg Ala Phe Leu Val Gly Ser Ala Lys Pro Val Ala Gln Pro
20 25 30
Val Ala Ala Leu Glu Ser Ala Ala Glu Ala Gly Ala Gly Thr Leu Ala
35 40 45
Asn Pro Leu Gly Thr Leu Asn Pro Leu Lys Leu Leu Leu Ser Ser Leu
50 55 60
Gly Ile Pro Val Asn His Leu Ile Glu Gly Ser Gln Lys Cys Val Ala
65 70 75 80
Glu Leu Gly Pro Gln Ala Val Gly Ala Val Lys Ala Leu Lys Ala Leu
85 90 95
Leu Gly Ala Leu Thr Val Phe Gly
100

<210> 2
<211> 86
<212> PRT
<213> Homo sapiens

<400> 2
Arg Ala Phe Leu Val Gly Ser Ala Lys Pro Val Ala Gln Pro Val Ala
1 5 10 15
Ala Leu Glu Ser Ala Ala Glu Ala Gly Ala Gly Thr Leu Ala Asn Pro
20 25 30
Leu Gly Thr Leu Asn Pro Leu Lys Leu Leu Leu Ser Ser Leu Gly Ile

```
        35                  40                  45
Pro Val Asn His Leu Ile Glu Gly Ser Gln Lys Cys Val Ala Glu Leu
    50                  55                  60
Gly Pro Gln Ala Val Gly Ala Val Lys Ala Leu Lys Ala Leu Leu Gly
65                  70                  75                  80
Ala Leu Thr Val Phe Gly
                85
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<210> 3
<211> 312
<212> DNA
<213> Homo sapiens

<400> 3
atgaagctcg ccgccctcct ggggctctgc gtggccctgt cctgcagctc cgctcgtgct 60
ttcttagtgg gctcggccaa gcctgtggcc cagcctgtcg ctgcgctgga gtcggcggcg 120
gaggccgggg ccgggaccct ggccaacccc ctcggcaccc tcaacccgct gaagctcctg 180
ctgagcagcc tgggcatccc cgtgaaccac ctcatagagg gctcccagaa gtgtgtggct 240
gagctgggtc cccaggccgt gggggccgtg aaggccctga aggccctgct gggggccctg 300
acagtgtttg gc 312

<210> 4
<211> 258
<212> DNA
<213> Homo sapiens

<400> 4
cgtgctttct tagtgggctc ggccaagcct gtggcccagc ctgtcgctgc gctggagtcg 60
gcggcggagg ccggggccgg gaccctggcc aacccccctcg gcaccctcaa cccgctgaag 120
ctcctgctga gcagcctggg catccccgtg aaccacctca tagagggctc ccagaagtgt 180
gtggctgagc tgggtcccca ggccgtgggg gccgtgaagg ccctgaaggc cctgctgggg 240
gccctgacag tgtttggc 258

<210> 5
<211> 104
<212> PRT
<213> Mus musculus

<400> 5
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Met Lys Leu Thr Thr Thr Phe Leu Val Leu Cys Val Ala Leu Leu Ser
 1               5                  10                  15
Asp Ser Gly Val Ala Phe Phe Met Asp Ser Leu Ala Lys Pro Ala Val
            20                  25                  30
Glu Pro Val Ala Ala Leu Ala Pro Ala Ala Glu Ala Val Ala Gly Ala
        35                  40                  45
Val Pro Ser Leu Pro Leu Ser His Leu Ala Ile Leu Arg Phe Ile Leu
    50                  55                  60
Ala Ser Met Gly Ile Pro Leu Asp Pro Leu Ile Glu Gly Ser Arg Lys
65                  70                  75                  80
Cys Val Thr Glu Leu Gly Pro Glu Ala Val Gly Ala Val Lys Ser Leu
                85                  90                  95
Leu Gly Val Leu Thr Met Phe Gly
            100
```

<210> 6
<211> 85
<212> PRT

<213> Mus musculus

<400> 6

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Val Ala Phe Phe Met Asp Ser Leu Ala Lys Pro Ala Val Glu Pro Val
 1               5                  10                  15
Ala Ala Leu Ala Pro Ala Ala Glu Ala Val Ala Gly Ala Val Pro Ser
            20                  25                  30
Leu Pro Leu Ser His Leu Ala Ile Leu Arg Phe Ile Leu Ala Ser Met
        35                  40                  45
Gly Ile Pro Leu Asp Pro Leu Ile Glu Gly Ser Arg Lys Cys Val Thr
    50                  55                  60
Glu Leu Gly Pro Glu Ala Val Gly Ala Val Lys Ser Leu Leu Gly Val
65                  70                  75                  80
Leu Thr Met Phe Gly
                85
```

<210> 7
<211> 312
<212> DNA
<213> Mus musculus

<400> 7

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atgaagctta ccaccacctt tctagtgctc tgtgtggctc tgctcagtga ctctggtgtt      60
gctttcttca tggactcatt ggccaagcct gcggtagaac ccgtggccgc ccttgctcca     120
gctgcagagg ctgtggcagg ggctgtgcct agcctaccat taagccactt ggccatcctg     180
aggttcatcc tggccagcat gggcatccca ttggatcctc tcatagaggg atccaggaag     240
tgtgtcaccg agctgggccc tgaggctgta ggagctgtga agtcactgct gggggtcctg     300
acaatgttcg gt                                                         312
```

<210> 8
<211> 255
<212> DNA
<213> Mus musculus

<400> 8

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gttgctttct tcatggactc attggccaag cctgcggtag aacccgtggc cgcccttgct      60
ccagctgcag aggctgtggc aggggctgtg cctagcctac cattaagcca cttggccatc     120
ctgaggttca tcctggccag catgggcatc ccattggatc ctctcataga gggatccagg     180
aagtgtgtca ccgagctggg ccctgaggct gtaggagctg tgaagtcact gctgggggtc     240
ctgacaatgt tcggt                                                      255
```

<210> 9
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 9

```
gagggaaagt ttttttttatt tgg                                            23
```

<210> 10
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 10
caaaactaac aaaacaaaac ca 22

<210> 11
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 11
gttaagagga agttttcgag gttc 24

<210> 12
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 12
ggtacgggtt ttttacggtt cgtc 24

<210> 13
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 13
aacttcttat acccgatcct cg 22

<210> 14
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 14
gttaagagga agtttttgag gttt 24

<210> 15
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 15
ggtatgggtt ttttatggtt tgtt 24

<210> 16
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 16
caaaacttct tatacccaat cctca 25

<210> 17
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 17
tttccctgct tccacactag c 21

<210> 18
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 18
agattaagaa ggaattgacc t 21

<210> 19
<211> 551
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> 189
<223> n = C or G

<400> 19
cggccgggga ggcggccggg agtgaggcct gatcgtccct ggcgcctcca cctccccagg 60
cgcagaaggc gcccacgagg acccccagtg cccgacgttg ccacggtctg ggatcagagg 120
cagggaccag ggagccagga actgcgccgc ccccgccccc gccctggcgc gagggaagct 180
ccctcaccng agggaagctc ccctcacccg gcccagccct gcaggggggc gcgtggggtc 240
agaccgcaaa gcgaaggtgc gggccggggt gggcctcgcg gagacaaagg ccgggcctgc 300
ctctctcaga gggccccagc gcctgccaag aggaagtcct cgaggcccgg gcagggaagg 360
gggcacgggc ttcccagggc ccgccggccg cagcaggaag ttggccaggg cacggccgtg 420
agcggagcgg gcagggcttt ctcaggagcg cgggcgaggc cggcgctgga ggggcgagga 480
ccgggtataa gaagcctcgt ggccttgccc gggcagccgc aggttccccg cgcgccccga 540

gccccgcgc c 551

<210> 20
<211> 279
<212> DNA
<213> Rattus norvegicus

<400> 20
gttctctgtt ttgtgttggt aggcgttgct ttcttggtgg attcactggc caagcctgtg 60
gtagaacccg tggctgccat tgctacagct gcagaggctg tggcaggggc tgtgcctagc 120
ctaccattaa gccacttggc catcctgagg ttcatcgtga ccagcctggg catcccattg 180
gatcctctca tagatggttc caggaagtgc gtcaccgagc tgggccctga ggctgtagga 240
gctgtgaagt cactgctggg ggccctgaca acgttcggt 279

<210> 21
<211> 93
<212> PRT
<213> Rattus norvegicus

<400> 21
Val Leu Cys Phe Val Leu Val Gly Val Ala Phe Leu Val Asp Ser Leu
1 5 10 15
Ala Lys Pro Val Val Glu Pro Val Ala Ala Ile Ala Thr Ala Ala Glu
20 25 30
Ala Val Ala Gly Ala Val Pro Ser Leu Pro Leu Ser His Leu Ala Ile
35 40 45
Leu Arg Phe Ile Val Thr Ser Leu Gly Ile Pro Leu Asp Pro Leu Ile
50 55 60
Asp Gly Ser Arg Lys Cys Val Thr Glu Leu Gly Pro Glu Ala Val Gly
65 70 75 80
Ala Val Lys Ser Leu Leu Gly Ala Leu Thr Thr Phe Gly
85 90

<210> 22
<211> 84
<212> PRT
<213> Homo sapiens

<400> 22
Phe Leu Val Gly Ser Ala Lys Pro Val Ala Gln Pro Val Ala Ala Leu
1 5 10 15
Glu Ser Ala Ala Glu Ala Gly Ala Gly Thr Leu Ala Asn Pro Leu Gly
20 25 30
Thr Leu Asn Pro Leu Lys Leu Leu Leu Ser Ser Leu Gly Ile Pro Val
35 40 45
Asn His Leu Ile Glu Gly Ser Gln Lys Cys Val Ala Glu Leu Gly Pro
50 55 60
Gln Ala Val Gly Ala Val Lys Ala Leu Lys Ala Leu Leu Gly Ala Leu
65 70 75 80
Thr Val Phe Gly

<210> 23
<211> 252
<212> DNA
<213> Homo sapiens

<400> 23
ttcttagtgg gctcggccaa gcctgtggcc cagcctgtcg ctgcgctgga gtcggcggcg 60
gaggccgggg ccgggaccct ggccaacccc ctcggcaccc tcaacccgct gaagctcctg 120
ctgagcagcc tgggcatccc cgtgaaccac ctcatagagg gctcccagaa gtgtgtggct 180
gagctgggtc cccaggccgt gggggccgtg aaggccctga aggccctgct gggggccctg 240
acagtgtttg gc 252

<210> 24
<211> 83
<212> PRT
<213> Mus musculus

<400> 24
Phe Phe Met Asp Ser Leu Ala Lys Pro Ala Val Glu Pro Val Ala Ala
1 5 10 15
Leu Ala Pro Ala Ala Glu Ala Val Ala Gly Ala Val Pro Ser Leu Pro
20 25 30
Leu Ser His Leu Ala Ile Leu Arg Phe Ile Leu Ala Ser Met Gly Ile
35 40 45
Pro Leu Asp Pro Leu Ile Glu Gly Ser Arg Lys Cys Val Thr Glu Leu
50 55 60
Gly Pro Glu Ala Val Gly Ala Val Lys Ser Leu Leu Gly Val Leu Thr
65 70 75 80
Met Phe Gly

<210> 25
<211> 249
<212> DNA
<213> Mus musculus

<400> 25
ttcttcatgg actcattggc caagcctgcg gtagaacccg tggccgccct tgctccagct 60
gcagaggctg tggcaggggc tgtgcctagc ctaccattaa gccacttggc catcctgagg 120
ttcatcctgg ccagcatggg catcccattg gatcctctca tagagggatc caggaagtgt 180
gtcaccgagc tgggccctga ggctgtagga gctgtgaagt cactgctggg ggtcctgaca 240
atgttcggt 249

<210> 26
<211> 249
<212> DNA
<213> Rattus norvegicus

<400> 26
ttcttggtgg attcactggc caagcctgtg gtagaacccg tggctgccat tgctacagct 60
gcagaggctg tggcaggggc tgtgcctagc ctaccattaa gccacttggc catcctgagg 120
ttcatcgtga ccagcctggg catcccattg gatcctctca tagatggttc caggaagtgc 180
gtcaccgagc tgggccctga ggctgtagga gctgtgaagt cactgctggg ggccctgaca 240
acgttcggt 249

<210> 27
<211> 83
<212> PRT
<213> Rattus norvegicus

<400> 27
Phe Leu Val Asp Ser Leu Ala Lys Pro Val Val Glu Pro Val Ala Ala

```
 1               5                  10                  15
Ile Ala Thr Ala Ala Glu Ala Val Ala Gly Ala Val Pro Ser Leu Pro
            20                  25                  30
Leu Ser His Leu Ala Ile Leu Arg Phe Ile Val Thr Ser Leu Gly Ile
        35                  40                  45
Pro Leu Asp Pro Leu Ile Asp Gly Ser Arg Lys Cys Val Thr Glu Leu
    50                  55                  60
Gly Pro Glu Ala Val Gly Ala Val Lys Ser Leu Leu Gly Ala Leu Thr
65                  70                  75                  80
Thr Phe Gly
```

<210> 28
<211> 109
<212> PRT
<213> Drosophila melanogaster

<400> 28

```
Met Phe Lys Leu Ser Ala Leu Val Val Leu Cys Ala Leu Val Ala Cys
 1               5                  10                  15
Ser Ser Ala Glu Pro Lys Pro Ala Ile Leu Ala Ala Ala Pro Val Val
            20                  25                  30
Ala Ala Ala Pro Ala Gly Val Val Thr Ala Thr Ser Ser Gln Tyr Val
        35                  40                  45
Ala Arg Asn Phe Asn Gly Val Ala Ala Ala Pro Val Val Ala Ala Ala
    50                  55                  60
Tyr Thr Ala Pro Val Ala Ala Ala Ala Tyr Thr Ala Pro Val Ala Ala
65                  70                  75                  80
Ala Ala Tyr Thr Ala Pro Val Ala Ala Ala Tyr Ser Ala Tyr Pro Tyr
                85                  90                  95
Ala Ala Tyr Pro Tyr Ser Ala Ala Tyr Thr Thr Val Leu
            100                 105
```

<210> 29
<211> 327
<212> DNA
<213> Drosophila melanogaster

<400> 29

```
atgttcaagc tgtctgccct cgttgtcctg tgcgctctgg tggcctgctc ctcggctgag     60
cccaagcccg ctatcctggc cgccgctcca gtggttgcag ctgctcctgc cggcgtggtc    120
accgctacca gttcgcagta cgtggcccgc aacttcaacg gtgtggctgc tgctccagtt    180
gttgccgctg cctacaccgc tccagttgcc gccgctgcct ataccgctcc agttgccgcc    240
gctgcttata ccgctccagt tgccgctgcc tactctgctt atccgtatgc cgcctaccct    300
tacagcgctg catacaccac tgttttg                                       327
```

<210> 30
<211> 137
<212> PRT
<213> Drosophila melanogaster

<400> 30

```
Met Lys Phe Leu Ala Val Cys Phe Phe Ala Val Val Ala Val Ala Ala
 1               5                  10                  15
Ala Lys Pro Gly Ile Val Ala Pro Leu Ala Tyr Thr Ala Pro Ala Val
            20                  25                  30
Val Gly Ser Ala Ala Tyr Val Ala Pro Tyr Ala Ser Ser Tyr Thr Ala
```

```
        35                  40                  45
Asn Ser Val Ala His Ser Ala Ala Phe Pro Ala Ala Tyr Thr Ala Ala
    50                  55                  60
Tyr Thr Ala Pro Val Ala Ala Ala Tyr Thr Ala Pro Val Ala Ala Ala
65                  70                  75                  80
Tyr Thr Ala Pro Val Ala Ala Ala Tyr Ala Ala Pro Ala Ala Tyr Thr
                85                  90                  95
Ala Ala Tyr Thr Ala Pro Ile Ala Arg Tyr Ala Ala Thr Pro Phe Ala
            100                 105                 110
Ala Pro Ile Ala Ala Pro Val Ala Ala Ala Tyr Thr Ala Pro Ile Ala
        115                 120                 125
Ala Ala Ala Pro Val Leu Leu Lys Lys
    130                 135
```

<210> 31
<211> 411
<212> DNA
<213> Drosophila melanogaster

<400> 31

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atgaaattcc tcgccgtctg cttcttcgct gttgtggctg tggctgctgc caaacccggt      60
attgtggctc ctctggccta caccgctccg gctgtggtgg gcagtgccgc ctacgtggct     120
ccctacgcct ccagctacac cgccaactcg gtggcccaca gcgccgcctt cccagctgcc     180
tacaccgccg cctacactgc tcccgttgct gctgcctata ccgctccagt ggctgctgct     240
tataccgctc cagtggccgc tgcgtacgcc gccccagctg cctataccgc tgcctacacc     300
gcccccattg cccgttatgc cgccaccccc ttcgcagcac ccatcgccgc tcccgtggct     360
gccgcctaca ccgcccccat cgccgccgct gccccagttc tgctgaagaa g              411
```

<210> 32
<211> 93
<212> PRT
<213> Homo sapiens

<400> 32

```
Met Lys Leu Val Thr Ile Phe Leu Leu Val Thr Ile Ser Leu Cys Ser
 1               5                  10                  15
Tyr Ser Ala Thr Ala Phe Leu Ile Asn Lys Val Pro Leu Pro Val Asp
            20                  25                  30
Lys Leu Ala Pro Leu Pro Leu Asp Asn Ile Leu Pro Phe Met Asp Pro
        35                  40                  45
Leu Lys Leu Leu Leu Lys Thr Leu Gly Ile Ser Val Glu His Leu Val
    50                  55                  60
Glu Gly Leu Arg Lys Cys Val Asn Glu Leu Gly Pro Glu Ala Ser Glu
65                  70                  75                  80
Ala Val Lys Lys Leu Leu Glu Ala Leu Ser His Leu Val
                85                  90
```